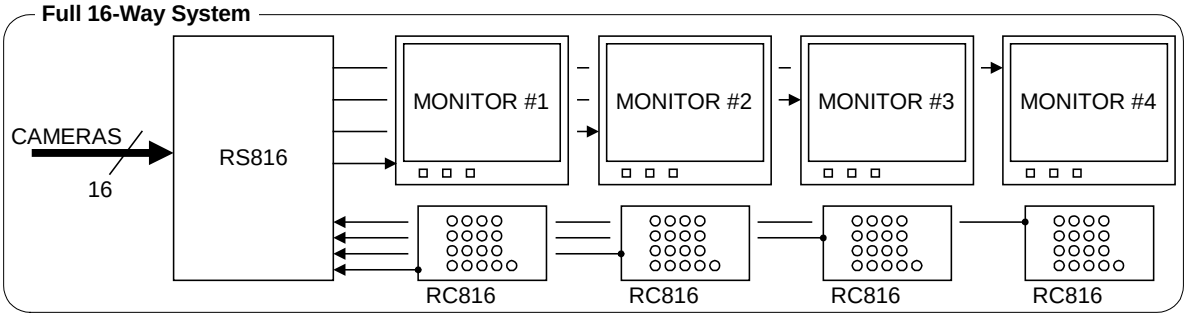
1. INTRODUCTION

Nortek's *80 Series* is a remote video switching system, designed for the CCTV industry. Available models have either one or four independently switched output (monitor) channels. Each channel used requires a corresponding controller (keypad unit); the RC80 range provides this function.

Note that a smaller controller can be used in order to limit selection to the lower-order block of cameras; for example: - using an RC88 to control an RS816 channel would limit the operator to selection of the first eight cameras only.

	Cameras	Monitors	Matching RC
RS816	16	4	RC816
RS816CAT5	16	4 TPV	RC816CAT5
RS816LT	16	4	RC816
RS88	8 LT	4	RC88
RS88CAT5	8 LT	4 TPV	RC88CAT5

LT – Loop Through *TPV – Twisted Pair Video*



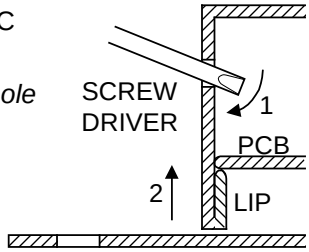
[Note that from this point onwards, any reference to the RC816 will be also apply to the RC88]

2. INSTALLATION

Opening the Case [WARNING: ensure power is disconnected beforehand]

RS It is only necessary to open the case for access to the 75Ω terminators or RC related screw terminals.

Procedure: - *do not remove any screws! – feed a screwdriver through the hole provided in the side of the unit* ***(by no more than 5mm)*** *use it as a lever to move the lid lip away from the PCB, then lift the lid away from the unit.*



RC It is only necessary to open the case for access to the RS and alarm related screw terminals.

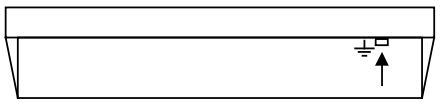
Procedure: - *invert the RC, remove four screws, position your fingers at the front panel edge nearest the buttons and lift it away from the base.*

Power Connections

The provided power adapter powers the system; this plugs into the RS unit. The RC units get their power from the RS via the CAT-5 cable.

Supplementary Earth

A supplementary earth connection can be made at the rear of the RC unit. Fix your earth connection using a small ring terminal crimp and fix it under the screw and washer shown in the graphic.



Camera Connections

We recommend populating the RS from camera-1 upwards.

The **RS88** has 8 BNC pairs to facilitate loop-through; the input terminator must be removed when the loop-through facility is used.

Terminator Removal: - *all inputs are 75Ω terminated; a terminator can be disconnected by removing the lid and unplugging the corresponding jumper, located directly below that camera input.*

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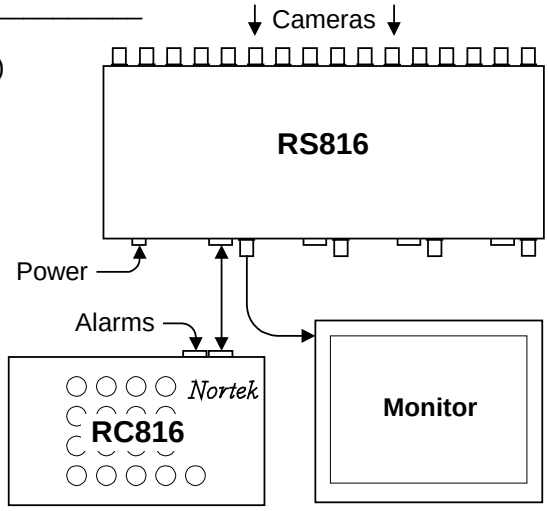
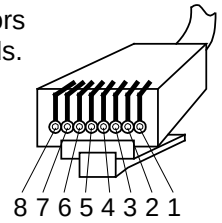
Channel Connections

The RS has up to four totally independent output channels; each channel connects to its own monitor and RC. Note that there can be only *one* RC per channel.



Connection should be made via **CAT-5 UTP** (unshielded twisted pair) cable; the cable should be no more than **150m** in length. **RJ-45** connectors should be fitted to the cable ends.

We've adopted the same wiring scheme as that used for standard CAT-5 Ethernet computer network cables; these are available off-the-shelf *[1]*.



8	BRN	
7	BRN-W	
6	GRN	B
5	BLU-W	D
4	BLU	C
3	GRN-W	A
2	ORG	-
1	ORG-W	+

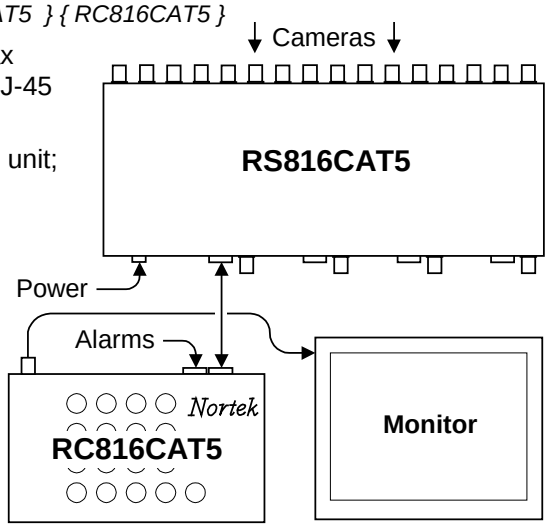
RC/RS Link

When making your own cable please refer to the **RC/RS Link** diagram - all four wire-pairs should be connected.

[1] Use straight-through cables, crossover cables are <u>not suitable</u>

Twisted-Pair-Video Models *[supplemental to the previous section]*

applicable to: { RS816CAT5 :: RS88CAT5 } { RC816CAT5 }

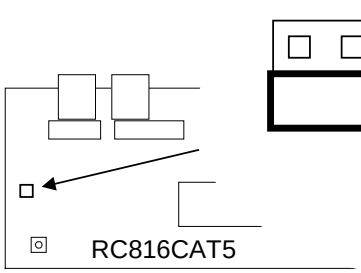


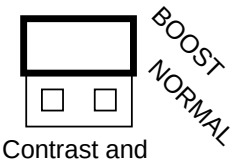
These models have two video outputs per channel; one provides coax video via the BNC and the other provides twisted pair video via the RJ-45 connector. Both outputs have the same video content.

Twisted pair video passes through the CAT-5 control cable to the RC unit; the RC extracts the video and outputs it via coax to the monitor.

The CAT-5 cable's **brown wire pair** is used to carry the video signal, see **pins 7 & 8** on the **RC/RS LINK** diagram.

The RC has a ***signal boost*** option which is configured via a jumper inside the unit.





Contrast and sharpness boosted

The boost should only be used when the picture looks dull and lacks detail.

3. SPECIFICATION

RS
Video I/O { $1V_{p-p}$ :: 75Ω } **RS-RC link cable** { CAT-5 UTP :: 150m max. }
Power Supply { 230Vac 50Hz :: 12Vdc @ 500mA :: unregulated :: class II }

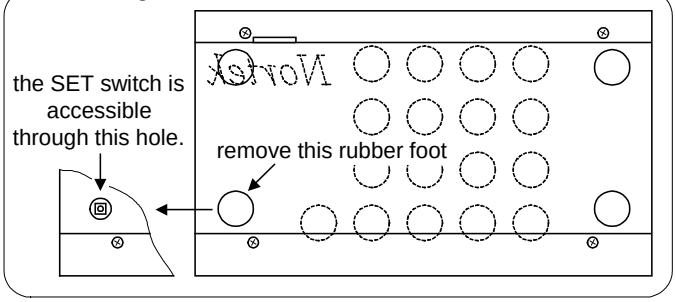
RC
Auto Sequencing { 1 to 120 sec } **Current Consumption** { 60mA @ 12Vdc }
Alarm Contacts { N/O :: floating contact } **Relay Contacts** { N/O & N/C :: 12V @ 100mA }

4. RC PROGRAMMING

The RC is configured by use of a hidden switch, located under one of its rubber feet; this is the [SET] switch.

If, while in programming mode, there's no key activity for 25-secs, the unit will discard any changes and revert back to normal operation.

Accessing the SET Switch



Configuring Cameras

The RC can be programmed to block access to certain cameras; this is done by defining which cameras are accessible; these are the only cameras the operator will be allowed to view.

Set-up Procedure

- Tap [SET] ; the lamp above the key will flash, and the lamps above the camera keys show which cameras are currently accessible.
- Tap the camera keys to toggle them to the desired state. Note that the RC demands at least two cameras be defined as accessible.
- Tap to store the new settings and return to normal operation or alternatively tap [SET] again to cancel the set-up procedure and discard any changes.

5. RC OPERATION

Note that the unit will always power-up in *auto-sequence* mode.

Camera Selection

Simply tap a camera key to view the corresponding camera, if the camera is not accessible then the unit will give a warning beep and ignore the request.

Automatic Camera Sequencing

Tap to *start* and *stop* auto-sequencing; tapping a camera key also stops auto-sequencing.

The dwell period can be set to any value in the range of 1- to 120-secs; this is done by holding down while tapping keys [3] and [4] ; each tap of [3] adds 10-secs and each tap of [4] adds 1-sec to the total; for example: - hold down and tap [3] once and [4] twice to get a dwell period of 12-secs.